

1. A method for recording and playing back monitored video data which stores video signals generated continuously for a long time on a magnetic tape, comprising the steps of:

generating video signals continuously for a long time,

compressing said video signals on the time axis,
outputting said video signals as video data of digital signals while receiving said video signals generated continuously for a long time

recording said digital video data compressed on the time axis, being shorter the period of said recorded digital video data on said magnetic tape than the period generating said video signals continuously.

2. A method for recording and playing back monitored video data on a magnetic tape as defined in claim 1, wherein said digital video data is recorded on said magnetic tape intermittently.

3. A method for recording and playing back monitored video data on a magnetic tape as defined in claim 2, wherein the output data rate (speed) of said digital video data is set lower than that of recording and playback on said magnetic tape.

4. A method for recording and playing back monitored video data on a magnetic tape as defined in claim 3, wherein

said output digital video data is temporarily saved in a memory, thereafter recording said buffered digital video data on said magnetic tape.

5. A method for recording and playing back monitored video data on a magnetic tape as defined in claim 4, wherein said temporarily saved digital video data is recorded on said magnetic tape each time the amount of said saved data reaches a specified value.

6. An apparatus for recording and playing back monitored video data which stores video signals generated continuously for a long time on a magnetic tape, comprising:

video signals generating means for generating video signals continuously for a long time,

time axis compressing means for entering said video signals generated continuously for a long time by said video signal generating means and compressing said entered video signals on the time axis and outputting said compressed video signals as video data of digital signals, and

magnetic tape recording means for recording or playing back digital video data from said time axis compressing means, being shorter the period in which said magnetic tape recording means records said digital video data on said magnetic tape than the period in which said video signal generating means generates video signals continuously.

7. An apparatus for recording and playing back monitored video data as defined in claim 6, wherein said magnetic tape recording means records digital video data from said time axis compressing means intermittently on said magnetic tape.

8. An apparatus for recording and playing back monitored video data as defined in claim 7, wherein said time axis compressing means is provided with compression encoding means for compressing and encoding video signals as specified by receiving said video signals generated by said video signal generating means continuously for a long time, and the output data rate (speed) of the digital video data output from said compression encoding means is set lower than the recording/playback data rate of said magnetic tape recording means.

9. An apparatus for recording and playing back monitored video data as defined in claim 8, wherein said time axis compressing means is further provided with means of saving said compressed and encoded digital video data temporarily.

10. An apparatus for recording and playing back monitored video data as defined in claim 9, wherein said time axis compressing means is further provided with controlling means for controlling so that digital video data saved in said saving means is recorded on said magnetic tape by said

magnetic tape recording means each time the amount of said digital video data reaches a specified value.

11. An apparatus for recording and playing back monitored video data as defined in claim 10, wherein said saving means has a capacity enough to save said digital video data for a period longer than the period required to rotate a rotary cylinder in said magnetic tape recording means at a fixed speed and stop said rotary cylinder.

12. An apparatus for recording and playing back monitored video data, which can record video data for a long time, comprising:

first memory means for storing video data temporarily;

first recording and playing back means for recording and playing back output data from said first memory means in a recording medium;

second memory means for storing playback data from said first recording & playback means temporarily; and

second recording and playing back means for recording data output from said second memory means on a magnetic tape by forming oblique tracks on said magnetic tape,

controlling means for controlling the operations of writing and reading of said first and second memory means and recording and playback operations of said first and

second recording and playback means, said controlling means further includes the steps of;

controlling so that reading video data from said first memory means and recording by said first recording & playback means are repeated each time the first specified data amount is reached in a recording operation,

executing playback operation of said first recording & playback means and recording operation of said second recording & playback means in first operation mode so that those operations are stopped until the data recorded by said first recording & playback means and not played back yet reaches second specified data amount which is greater than said first specified data amount, and

setting second operation mode so that recording and playback operations of said first recording & playback means are time-shared until data of said second specified data amount is played back completely, when said data recorded and not played back yet reaches said second specified data amount, and

executing the recording of the data read by said second memory means at a specified transfer speed in second operation mode in which recording by said second recording & playback means is performed while feeding the magnetic tape continuously by forming tracks obliquely on said magnetic tape.

13. An apparatus for recording & playing back monitored video data, comprising

first memory means for storing video data temporarily;

first and second recording and playing back means for recording and playing back data output from said first memory means on a recording medium;

second memory means for storing playback data temporarily from said first and second recording & playback means;

third recording and playing back means for recording and playing back data output from said second memory means on a magnetic tape by forming oblique tracks on said magnetic tape; and

controlling means for controlling the operations of writing and reading of said first and second memory means as well as recording and playing back of said first, second, and third means for recording and playing back video data, said controlling means further includes the steps of;

selecting one of four operation modes according to the recorded data amount and the playback data amount in said first and second recording & playback means, when video data is recorded, and

in said first operation mode,

controlling so that reading video data from said first memory means and recording by said first recording & playback means are repeated each time first specified data amount is reached, while recording and playback operations of said second and third recording & playback means are stopped, and

in said second operation mode,

controlling so that reading of video data from said first memory means and recording by said second recording & playback means are repeated each time said first specified data amount is reached, and

storing video data read from said first recording & playback means in said second memory means temporarily, thereafter

reading said video data from said second memory means at a specified transfer rate while enabling said third recording & playback means to record transferred data continuously on a magnetic tape by forming tracks obliquely on said magnetic tape, and

in said third operation mode,

controlling so that reading of video data from said first memory means and recording by said second recording & playback means are repeated each time said first data amount is reached, while recording and playback operations

of said first and third recording & playback means are stopped, and

in said fourth operation mode,

controlling so that reading of video data from said first memory means and recording by said first recording & playback means are repeated each time said first specified data amount is reached, and video data read from said second recording & playback means is stored in said second memory means temporarily, thereafter

reading the video data from said second memory means at a specified transfer rate while enabling third recording & playback means to record transferred data on a magnetic tape fed continuously by forming tracks obliquely on said magnetic tape.

14. An apparatus for recording and playing back monitored video data, which records compressed and encoded video data on a magnetic tape by forming tracks obliquely on said magnetic tape, comprising

sorting the time orders means for sorting the time orders of video data in a recording operation so that only the video data in first group compressed and encoded at the time interval of the m frames (m = an integer of 2 or over) is continued by n (n = an integer of 2 or over) frames,

sorting video data means for sorting video data in a playback operation in first playback mode so that the

initial time orders of video data in said first group and other video data are restored,

 playback controlling means for controlling in second playback mode so that only the video data in said first group selected from playback video data recorded on said magnetic tape is played back selectively and other video data is fed fast, and

 memory means for storing (memory) said first played back video data temporarily and outputting said video data.